

WHAT IS CLAIMED IS:

1. A smoking article comprising:
 - a first component comprising a column of a smokable filler;
 - 5 a second component comprising a wrapper surrounding the column of the smokable filler; and
 - a carbon monoxide reducing agent selected from the group consisting of metal oxides and metal carbonates, the carbon monoxide reducing agent being contained in the first component, the second component, or in both components, the carbon monoxide reducing agent being present in an amount sufficient to reduce carbon monoxide delivery in mg per smoking article by at least 10%.
- 10 2. A smoking article as defined in Claim 1, wherein the carbon monoxide reducing agent comprises iron oxide.
- 20 3. A smoking article as defined in Claim 1, wherein the carbon monoxide reducing agent comprises cobalt oxide, calcium peroxide, palladium oxide, platinum oxide, cobalt carbonate or mixtures thereof.
- 25 4. A smoking article as defined in Claim 1, wherein the carbon monoxide reducing agent has a median particle size of from about 0.05 microns to about 3 microns.
- 30 5. A smoking article as defined in Claim 1, wherein the carbon monoxide reducing agent is present in the first component or the second component in an amount up to about 40% by weight.

6. A smoking article as defined in Claim 1,
wherein the carbon monoxide reducing agent is also
present in an amount sufficient to reduce the carbon
monoxide to tar ratio of the smoking article by at
least about 10%.

7. A smoking article as defined in Claim 1,
wherein the smokable filler comprises a tobacco.

8. A smoking article as defined in Claim 1,
wherein the column of smokable filler comprises
reconstituted tobacco.

9. A smoking article as defined in Claim 1,
wherein the wrapper surrounding the column of the
smokable filler comprises a sheet of reconstituted
tobacco.

10. A smoking article as defined in Claim 1,
wherein the carbon monoxide reducing agent comprises
ferric oxide.

11. A smoking article as defined in Claim 1,
wherein the carbon monoxide reducing agent comprises
hydrated ferric oxide.

12. A smoking article as defined in Claim 1,
wherein the wrapper comprises an outer layer and an
inner layer, the carbon monoxide reducing agent being
contained in the inner layer.

13. A smoking article as defined in Claim 1,
wherein the carbon monoxide reducing agent is only
contained in the first component.

14. A smoking article as defined in Claim 1,
wherein the carbon monoxide reducing agent is only
contained in the second component.

15. A smoking article as defined in Claim 1, wherein the carbon monoxide reducing agent comprises a Group VIII oxide.

5 16. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide delivery of less than about 15 mg per smoking article.

10 17. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide delivery of less than about 12 mg per smoking article.

15 18. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide delivery of less than about 10 mg per smoking article.

19. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide to tar ratio of less than about 1.0.

20 20. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide to tar ratio of less than about 0.7.

21. A smoking article as defined in Claim 1, wherein the smoking article has a carbon monoxide to tar ratio of less than about 0.5.

25 22. A smoking article as defined in Claim 1, wherein the smoking article further comprises low permeability areas surrounding the column of the smokable filler, the low permeability areas having a permeability within a range sufficient to reduce
30 ignition proclivity.

23. A smoking article as defined in Claim 1, wherein the smoking article has an average carbon monoxide delivery per puff of less than about 1.7 mg.

5 24. A smoking article as defined in Claim 1, wherein the smoking article has an average carbon monoxide delivery per puff of less than about 1.5 mg.

25. A smoking article as defined in Claim 1, wherein the smoking article has an average carbon
10 monoxide delivery per puff of less than about 1.25 mg.

26. A smoking article as defined in Claim 1, wherein the smoking article has an average carbon monoxide delivery per puff of less than about 1.0 mg.

15 27. A smoking article comprising:
 a first component comprising a column of a smokable filler, the smokable filler comprising a tobacco;

 a second component comprising a
20 wrapper surrounding the column of the smokable filler; and

 a carbon monoxide reducing agent contained in the first component, the second component, or in both components, the carbon monoxide
25 reducing agent comprising an iron oxide, a cobalt oxide, a calcium peroxide, a palladium oxide, a platinum oxide, a cobalt carbonate, or mixtures thereof, the carbon monoxide reducing agent being present in the first component or in the second
30 component in an amount from about 3% by weight to

about 40% by weight, the smoking article having a carbon monoxide delivery of less than about 15 mg per smoking article and having a carbon monoxide to tar ratio of less than about 1.0.

5 28. A smoking article as defined in Claim 27, wherein the carbon monoxide reducing agent comprises a Group VIII oxide.

10 29. A smoking article as defined in Claim 27, wherein the carbon monoxide reducing agent comprises a ferric oxide.

30. A smoking article as defined in Claim 29, wherein the carbon monoxide reducing agent comprises a hydrated ferric oxide.

Rink
15 *1,120* ³¹
~~30~~. A smoking article as defined in Claim 27, wherein the carbon monoxide reducing agent is present in the first component or present in the second component in an amount of at least about 10% by weight.

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~~31~~. A smoking article as defined in Claim 27, wherein the smoking article has a carbon monoxide delivery of less than about 12 mg per smoking article.

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32. A smoking article as defined in Claim 27, wherein the smoking article has a carbon monoxide delivery of less than about 10 mg per smoking article.

33. ³⁴
A smoking article as defined in Claim 27, wherein the smoking article has a carbon monoxide to tar ratio of less than about 0.7.

³⁵
34. A smoking article as defined in Claim 27,
wherein the smoking article has a carbon monoxide to
tar ratio of less than about 0.5.

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5 35. A smoking article as defined in Claim 27,
wherein the smoking article further comprises low
permeability areas surrounding the column of the
smokable filler, the low permeability areas having a
permeability within a range sufficient to reduce
ignition proclivity.

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10 36. A smoking article as defined in Claim 27,
wherein the wrapper comprises at least an outer layer
and an inner layer, the carbon monoxide reducing
agent being contained in the inner layer.

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15 37. A smoking article as defined in Claim 27,
wherein the carbon monoxide reducing agent is only
contained in the first component.

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38. A smoking article as defined in Claim 27,
wherein the carbon monoxide reducing agent is only
contained in the second component.

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20 39. A smoking article as defined in Claim 27,
wherein the column of smokable filler comprises
reconstituted tobacco.

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25 40. A smoking article as defined in Claim 27,
wherein the wrapper surrounding the column of the
smokable filler comprises a sheet of reconstituted
tobacco..

⁴²
30 41. A smoking article as defined in Claim 27,
wherein the carbon monoxide reducing agent is
contained within the wrapper, the wrapper comprising
pulp fibers, the wrapper having a permeability of

from about 15 Coresta to about 110 Coresta, and a basis weight of from about 18 gsm to about 60 gsm.

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~~42~~. A smoking article as defined in Claim 41, wherein the wrapper further contains a filler.

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~~43~~. A smoking article as defined in Claim 42, wherein the filler comprises calcium carbonate.

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~~44~~. A process for reducing carbon monoxide delivery in a smoking article comprising:

incorporating into the smoking article
10 a carbon monoxide reducing agent, the carbon monoxide reducing agent comprising a Group VIII oxide, a calcium peroxide, a cobalt carbonate, or mixtures thereof, the carbon monoxide reducing agent being present in an amount sufficient to reduce carbon
15 monoxide delivery in mg per smoking article by at least about 10%, the smoking article having a carbon monoxide delivery of less than about 15 mg per smoking article and having a carbon monoxide to tar ratio of less than about 1.0.

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~~45~~. A process as defined in Claim 44, wherein the smoking article comprises a column of smokable filler and a wrapper surrounding the column, the carbon monoxide reducing agent being contained in the wrapper.

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~~46~~. A process as defined in Claim 44, wherein the smoking article comprises a column of smokable filler and a wrapper surrounding the column, the carbon monoxide reducing agent being contained in the smokable filler.

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47. A process as defined in Claim 44, wherein the carbon monoxide reducing agent comprises a ferric oxide.

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48. A smoking article comprising:

5 a first component comprising a column of a smokable filler, the smokable filler comprising a tobacco;

 a second component comprising a wrapper surrounding the column of the smokable
10 filler;

 low permeability areas contained within the wrapper at selected locations, the lower permeability areas creating a BMI range within the wrapper sufficient to reduce ignition proclivity by
15 reducing oxygen to a smoldering coal of the smoking article as the coal burns and advances into the lower permeability areas, the wrapper having a BMI of less than about 8 cm^{-1} within the lower permeability areas; and

20 wherein the smoking article has a carbon monoxide delivery of less than about 15 mg per smoking article and has a carbon monoxide to tar ratio of less than about 1.0.

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49. A smoking article as defined in Claim 48,
25 wherein the smoking article has an average carbon monoxide per puff of less than about 1.75 mg.

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50. A smoking article as defined in Claim 48, wherein the smoking article has an average carbon monoxide per puff of less than about 1.5 mg.

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~~51~~. A smoking article as defined in Claim 48,
wherein the smoking article has an average carbon
monoxide per puff of less than about 1.25 mg.

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~~52~~. A smoking article as defined in Claim 48,
5 wherein the smoking article has a carbon monoxide
delivery of less than about 12 mg per smoking
article.

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~~53~~. A smoking article as defined in Claim 48,
wherein the smoking article has a carbon monoxide
10 delivery of less than about 10 mg per smoking
article.

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~~54~~. A smoking article as defined in Claim 48,
wherein the carbon monoxide to tar ratio is less than
about 0.7.

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~~55~~. A smoking article as defined in Claim 48,
15 wherein the carbon monoxide to tar ratio is less than
about 0.5.

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~~56~~. A smoking article as defined in Claim 48,
wherein the smoking article further comprises a
20 carbon monoxide reducing agent contained within the
first component, the second component, or in both
components, the carbon monoxide reducing agent
comprising a Group VIII oxide, a Group VIII
carbonate, or mixtures thereof.

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~~57~~. A smoking article as defined in Claim 56,
25 wherein the carbon monoxide reducing agent is only
contained within the wrapper, the carbon monoxide
reducing agent being present in the wrapper in an
amount from about 0.3% to about 40% by weight.

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~~58~~. A smoking article as defined in Claim 57,
 wherein the wrapper comprises a paper layer
 containing pulp fibers, the paper layer having a
 permeability of from about 15 Coresta to about 110
 5 Coresta and a basis weight from about 18 gsm to about
 60 gsm.

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~~59~~. A smoking article as defined in Claim 57,
 wherein the wrapper comprises an outer layer and an
 inner layer, the carbon monoxide reducing agent being
 10 contained within the inner layer.

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~~60~~. A smoking article as defined in Claim 59,
 wherein the inner layer comprises reconstituted
 tobacco.

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~~61~~. A smoking article as defined in Claim 56,
 15 wherein the carbon monoxide reducing agent is only
 contained in the first component.

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~~62~~. A smoking article as defined in Claim 61,
 wherein the smokable filler comprises reconstituted
 tobacco.

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~~63~~. A smoking article as defined in Claim 56,
 20 wherein the lower permeability areas comprise bands
 located on the wrapper.

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~~64~~. A smoking article as defined in Claim 63,
 wherein the bands are substantially parallel to an
 25 axis of the smoking article.

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~~65~~. A smoking article as defined in Claim 63,
 wherein the bands are substantially perpendicular to
 an axis of the smoking article.

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66. A smoking article as defined in Claim 48,
wherein the wrapper has a BMI from about 1 cm^{-1} to
about 5 cm^{-1} within the lower permeability areas.

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68. A smoking article as defined in Claim 48,
5 wherein the lower permeability areas are formed by
coating the wrapper with a film-forming composition.

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69. A smoking article as defined in Claim 48,
wherein the lower permeability areas comprise a
cellulosic composition that has been applied to the
10 wrapper.

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70. A smoking article as defined in Claim 48,
wherein the lower permeability areas comprise pieces
of a fibrous web that have been placed in association
with the wrapper.

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71. A smoking article as defined in Claim 56,
15 wherein the carbon monoxide reducing agent comprises
a ferric oxide.